

9-Point Drilling Plan



Presentation Goals

To Describe a Drilling Plan That...

- Is in compliance with Order #1.
- Clearly and thoroughly describes the proposal and anticipated conditions.
- Provides the necessary information, in a clear format, that enables an expeditious review.

Drilling Plan Components

Overview

- Formation Tops
- Depth to Oil, Gas, Water & Minerals
- Pressure Control
- Casing
- Cement
- Circulating Medium
- Testing, Coring, Logging
- Pressures, Temperatures, LCZs, H₂S
- Other aspects of the proposal

Formation Tops

- Surface formation
- Marker beds used for correlation
- Target formation(s)



Zones containing oil, gas, water and other minerals

- Distinguish between target zones and zones that may contain hydrocarbons.
- Identify salt water zones also, as they would affect drilling conditions.
- Plans for protecting those resources.

Blow-Out Prevention

- Size, rating, configuration & testing.
- Schematic diagrams, "a picture is worth 1000 words."
- Describe any ancillary equipment such as, rotating head, remote kill line, mud-gas separator, etc. that would be used.

Casing Design

- Size, weight, grade, thread & coupling, depth and condition.
- Include the design criteria, loading assumptions and safety factors used.
- Non-standard casing; include published specifications.
- If an alternate casing is being considered, include all specifications.
- Identify liner top and lap length.
- Describe any unusual design conditions.

Cementing

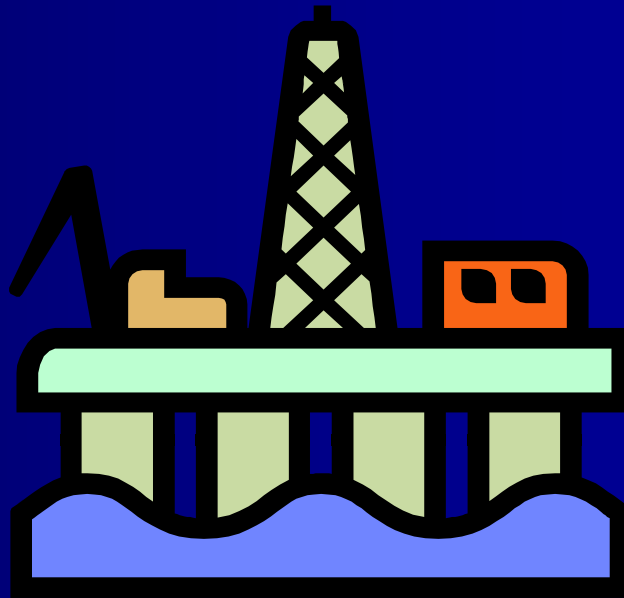
- Amount and type of cement, including additives for each slurry.
- Density & yield.
- Stage cementing--DV tool placement.
- Top-of-cement as designed, and excess volume.

Circulating Medium

- Type & characteristics of mud for each section of hole, and description of standby mud.
- Air Drilling
 - Borehole line length
 - Dust suppression
 - Gas ignition
 - Compression equipment size & location

Testing, Logging & Coring

- Describe general logging suite.
- DSTs



Anticipated pressures, abnormal/ hazardous drilling conditions

- **Anticipated BHP. If it does not correspond with mud weight, explain.**
- **Identify up-hole high pressure zones, lost circulation zones, etc.**
- **If H₂S is anticipated, Order #6 applies.**

Other facets of the proposal

- Directional & Horizontal wells: include design, plan view, vertical section, measured and true vertical depths.
- If the completion is deviated, include location of the top and bottom of the target zone relative to lease and section lines.

Summary and Final Thoughts

- A complete and thorough drilling plan improves processing efficiency.
- Any aspect of the drilling plan that is unusual should be explained.
- APDs are transferable.
- Amendments and modifications to the drilling plan.